

What Is Claimed Is:

1. A packet switching apparatus comprising:

n (an integer of 3 or more) slots capable of housing line interface cards to each of which an input line and an output line are connected; and

a packet switch for switching packets outputted from k line interface cards housed in k (an integer equal to or greater than 2 and less than or equal to n) slots of the n slots, wherein:

each of the k line interface cards adds a bitmap to a multicast packet inputted from the input line and outputs the multicast packet to the packet switch;

the packet switch multicasts the multicast packets to plural line interface cards of the k line interface cards specified in the bitmap; and

the length of the bitmap is made variable depending on the value of k.

2. A packet switching apparatus according to claim 1, wherein each of the k line interface cards brings the length of bitmap to n bits when $k = n$, and makes the length of the bitmap smaller than n bits when $k < n$.

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3. A packet switching apparatus according to claim 1, further comprising:

a control part for controlling the k line interface cards and the packet switch; and

a management terminal connected to the control part, wherein the value of k is inputted from the management terminal.

4. A packet switching apparatus according to claim 2, further comprising:

a control part for controlling the k line interface cards and the packet switch; and

a management terminal connected to the control part, wherein the value of k is inputted from the management terminal.

5. A packet switching apparatus according to claim 1, further comprising:

means for detecting that the line interface cards are housed in the slots.

6. A packet switching apparatus according to claim 2, further comprising:

means for detecting that the line interface cards are housed in the slots.

cards is equal to n , and in other cases, makes the length of the bitmap smaller than n bits.

10. A method of transmitting a multicast packet according to claim 8, wherein a management terminal is connected to the packet switching apparatus, and the number of the housed line interface cards is inputted from the management terminal.

11. A method of transmitting a multicast packet according to claim 9, wherein a management terminal is connected to the packet switching apparatus, and the number of the housed line interface cards is inputted from the management terminal.

12. A setup method of a packet switching apparatus which a management terminal is connected to, the packet switching apparatus comprising n (an integer of 3 or more) slots capable of housing line interface cards to each of which an input line and an output line are connected, the method comprising the steps of:

inputting the number of line interface cards housed in plural slots of the n slots from the management terminal;
and

depending on the inputted number of line interface cards, in each of the plural line interface cards housed in the plural slots, controlling the length of a bitmap added to a multicast packet.

13. A setup method of a packet switching apparatus according to claim 12, wherein each of the plural interface cards housed in the plural slots performs control so that the length of the bitmap is n bits when the number of the housed line interface cards is equal to n , and in other cases, the length of the bitmap is smaller than n bits.

14. A setup method of a packet switching apparatus according to claim 12, comprising the steps of:

if a multicast packet inputted to the plural line interface cards housed in the plural slots is multicast to only specific plural line interface cards of the plural line interface cards housed in the plural slots, inputting information for identifying the specific plural line interface cards from the management terminal; and

depending on the inputted number of line interfaces and the information, in each of the plural line interface cards housed in the plural slots, controlling the length of a bitmap added to a multicast packet.

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15. A setup method of a packet switching apparatus according to claim 13, comprising the steps of:

if a multicast packet inputted to the plural line interface cards housed in the plural slots is multicast to only specific plural line interface cards of the plural line interface cards housed in the plural slots, inputting information for identifying the specific plural line interface cards from the management terminal; and

depending on the inputted number of line interfaces and the information, in each of the plural line interface cards housed in the plural slots, controlling the length of a bitmap added to a multicast packet.